

**CHINA'S STRATEGY AND AGGRESSION IN THE EAST AND SOUTH CHINA
SEAS: HOW MUCH OF IT IS DRIVEN BY UNDERSEA OIL AND
NATURAL GAS?**

by
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ABSTRACT

Chinese aggression in the East and South China Sea has been a flash point for Pacific affairs since the 1960's. As China's economy increasingly needs oil and natural gas resources, how much of China's aggression and/or claims in the area are due to the existence of oil and natural gas resources? This research identifies the theoretical background behind national strategy and energy strategy, and collects data about Chinese national strategy, the energy resource metrics (historical and present) specific to China and the East and South China Sea, and the evolution of the conflict in the area. Much research exists around these separate topics, in general and specifically focused on China. Identifying general national strategies, how countries execute those strategies, and the theories behind energy as a driver of national strategy will build a framework from which to review the current Chinese energy security situation and identify the effect this has on its strategy in the South and East China Seas. The results showed that while oil and natural gas may look like a main driver of the conflict, and may actually be a partial driver, Chinese national strategy does not align with the idea that oil and natural gas resources are the main driver for their aggression in the area. The identified economic and energy market metrics show that the resources gained by China claiming the South and East China Sea pales in comparison to their needs, the lack of progression in extraction of these energy resources shows the difficulty in extraction, and the conflict timeline dispute that energy is a driver.

Review committee: Dr. Christina Lai and Professor Oliver Fritz

CONTENTS

| | |
|--|----|
| ABSTRACT | ii |
| INTRODUCTION | 1 |
| LITERATURE REVIEW | 2 |
| POLICIAL IDEOLOGY, NATIONALISM VS. GLOBALIZATION..... | 2 |
| Nationalism..... | 2 |
| Globalization | 4 |
| Regionalism | 5 |
| POWER PROJECTION, HARD POWER VS. SOFT POWER..... | 6 |
| GEOPOLITICS OF ENERGY | 9 |
| LITERATURE REVIEW SUMMARY | 11 |
| METHODS | 12 |
| DATA | 13 |
| CHINA’S HARD POWER | 13 |
| CHINA’S SOFT POWER..... | 16 |
| OIL AND GAS IN CHINA..... | 19 |
| Energy Sector Summary | 19 |
| Consumption..... | 21 |
| Production..... | 22 |
| Imports..... | 22 |
| Exports..... | 23 |
| Reserves..... | 24 |
| Transportation..... | 24 |
| SOUTH AND EAST CHINA SEA OIL | 25 |
| SOUTH AND EAST CHINA SEA DISPUTE EVOLUTION | 27 |
| DISCUSSION AND CONCLUSION | 29 |
| ALTERNATIVE EXPLANATIONS AND FURTHER RESEARCH..... | 32 |
| APPENDIX..... | 34 |
| APPENDIX 1: Map of South China Sea with 9 Dash Line | 34 |
| APPENDIX 2: Map of South China Sea and southern East China Sea..... | 35 |
| APPENDIX 3: Map of oil licensing blocks in the South China Sea | 36 |
| APPENDIX 4: A list of historically relevant activity in the South and East China Seas from 1974 through 2019..... | 37 |
| BIBLIOGRAPHY | 40 |
| Curriculum Vitae: Zachary W. Zoller..... | 43 |

INTRODUCTION

Recently, the South and East China Seas have been identified as a flashpoint in the geopolitical sphere as an area that has become ever tumultuous. China has claimed the area based on historical rights dating back to the Xia dynasty (21st through 16th centuries BCE) and reaffirmed in the 1960's.¹ In general, the region that China claims is bound by a nine-dash line, covering what is currently the entire South China Seas bound on the west by Vietnam, the south by Malaysia and the east by the Philippines (see Appendix 1)². In addition to these claims, China has claimed the area continental shelf off its coastline in the southernmost reaches of the East China Seas north of Taiwan, and area claimed by both Taiwan and Japan (see Appendix 2)³. China has set their sights on making further headway towards legitimizing their claims to these regions, an area that consists of mostly international waters and is contested on all sides by neighboring countries. Much has been written about the security implications for this activity, specifically with regards to the assumed Chinese strategy of regional dominance and Anti-Access/Area Denial (A2AD) which would create a standoff area between threats and mainland China, and would increase the general influence of the Chinese government over the area. This paper will take a turn from the strict military aspect of this topic, and instead look at the implications and affects that energy has had on this conflict. More specifically, how has China's need for increasing amounts of energy and their focus on

¹ Dingli, Shen, Elizabeth Economy, Richard Haass, Joshua Kurlantzick, Sheila A. Smith, and Simon Tay. 2019. "China's Maritime Disputes." Council on Foreign Relations. 2019.

https://www.cfr.org/interactives/chinas-maritime-disputes?cid=otr-marketing_use-china_sea_InfoGuide#!/chinas-maritime-disputes?cid=otr-marketing_use-china_sea_InfoGuide.

² CIA. 1988. "9 Dotted Line." https://upload.wikimedia.org/wikipedia/commons/c/ce/9_dotted_line.png.

³ Park, Katie. 2016. "Map of South China Sea Line." NPR. <https://www.npr.org/sections/thetwo-way/2016/07/13/485814417/chinese-official-on-tribunal-ruling-its-nothing-but-a-scrap-of-paper>.

securing that energy from threats affected their strategy in the area? For this research, energy security will be defined as a country's ability to access readily available and reliable energy resources at a volume and price that suits its economy's requirements.

LITERATURE REVIEW

POLITICAL IDEOLOGY, NATIONALISM VS. GLOBALIZATION

Nationalism

The well-regarded Anthony Smith identifies five different usages of the word. The first is focused on the, "process of formation, or growth, of nations⁴." This definition or usage for the term is the most distinct from Smith's the other four definitions because it is the only one that addresses nation formation. The second definition is "a sentiment or consciousness of belonging to the nation⁵," which, while more similar to the final three definitions in that it is not necessarily about the formation of nations, it is a more theoretical notion than the others. A country's population can feel a sentiment of collective consciousness without necessarily having any other traits of a solidified nationalistic country, and vice versa. The third involves, "language and symbolism of the nation⁶," and the fourth references "a social and political movement on behalf of the nation⁷." While important terms to consider when judging the nationalistic character of a country, these will not be the basis for considering the usage of the term with respect to this topic. Both of these references to nationalism focus on representation of the culture and the people, whereas the fifth and final usage for the term nationalism more closely ties to the thrust of this research. Smith's final reference to nationalism is "a doctrine

⁴ Smith, Anthony D. 2010. *Nationalism: Theory, Ideology, History*. Polity., pg 17

⁵ Smith 2010, pg 17

⁶ Smith 2010, pg 17

⁷ Smith 2010, pg 17

and/or ideology of the nation, both general and particular⁸.” While these other terms for nationalism are useful for studying the pervasiveness or character of a particular nation that may be nationalistic, here we will look at this final definition in order to understand the outward facing character of a nation, the way it has strategized and formed ideologies to project itself onto the world outside of the cultural influences or formational ideologies that surround a nation. Smith gives basic propositions of nationalism, of which we will focus on a few main points. These are:

(1)the world is divided into nations, each with its own character, history and destiny; (2)the nation is the sole source of political power; (3)loyalty to the nation overrides all other loyalties; (4)to be free, every individual must belong to a nation; (5)every nation requires full self-expression and autonomy; (6)global peace and justice require a world of autonomous nations⁹.

Because we are not dealing with a general dissection of the nationalistic character of a country, we will focus on those propositions that focus on the nation itself, rather than the individual. Specifically, we will look at propositions number one, two, three, and five. The degree to which number six fits into the research discussed here is debatable, but that is more or less outside the scope of the research. With these propositions identified, it is also understood that nationalistic nations often go against these propositions when it suits them, such as suppression of the first and therefore a contradiction with the sixth. The conflict of interest in these propositions comes when there is a conflict of interest between two countries, where one with power may subjugate the self-expression and autonomy of another in order to come to the ends that it deems necessary for its nation’s survival¹⁰. As Smith puts it: “In so doing, they have negated and

⁸ Smith 2010, pg 18

⁹ Smith 2010, pg 25

¹⁰ Smith 2010, pg 26

subverted the core doctrine of nationalism, which emphasizes the finite character of nations and demands an explicit recognition of the existence, individuality and rights of other, analogous nations¹¹.”

Globalization

In opposition to this nationalistic ideology is the idea of globalization and an ever more interconnected world. Joseph Nye Jr. speaks to the undoing of old international patterns where territorial states are no longer as important but instead international regimes are¹². The idea of globalization typically focuses on “an increase in interconnections, or interdependence, a rise in transnational flows, and an intensification of processes such that the world is, in some respects, becoming a single place¹³” or the “compression of time and space¹⁴.” The first of these definitions focuses on the interconnectedness of countries and cross-border flows of people and goods. As William Tabb puts it, “Globalization refers to the process of reducing barriers between countries and encouraging closer economic, political, and social interaction¹⁵.” The second definition is more theoretical and speaks to the idea that because of our abilities to communicate, the geography that formerly stifled global transmission of social ideas and activity is becoming less of a burden and therefore “[s]pace is increasingly dislocated from place, and networked to other social contexts across the globe¹⁶.” In addition to geolocation, time horizons are also shortened, in both physical terms but also in social

¹¹ Smith 2010, pg 26

¹² Keohane, Robert O., and Joseph S. Nye. 1989. *Interdependence in World Politics. Power and Interdependence*. Second. Boston, MA: HarperCollins. 1989

¹³ Mittelman, James H. 2000a. “Introduction.” In *The Globalization Syndrome: Transformation and Resistance*, 2–14. Princeton, NJ: Princeton University Press. <https://muse.jhu.edu/book/33170>., pg 5

¹⁴ Mittelman 2000a, pg 5

¹⁵ Tabb, William K. 1994. *The Postwar Japanese System: Cultural Economy and Economic Transformation*. New York: Oxford University Press., pg 1

¹⁶ Mittelman 2000a, pg 6

terms¹⁷. This research will focus more on the first definition of the term globalization in that we will focus here on the expansion of global interconnectedness as strategy that a country may take as they move towards their strategic goals.

Regionalism

Regionalism stems from globalization but is generally a more focused theory that attempts to explain and predict the current evolving world that happens to be shifting towards globalization, but without the theoretical ends of creating a single unified state. It focuses on the concentration of economic and political power within a globalizing world. It initially came about from the development of regional currencies, then subsequent trading blocks, and has been given speed by deregulation and privatization¹⁸. These groups can develop through de facto group cooperative dynamics, via pacts and bilateral/multilateral formal cooperation, or through strategy driven approaches. Newer forms of regionalism are not necessarily driven by polar hegemonies, but, because of the readily available means of communications and transportation, are instead mostly driven by spontaneous collections of smaller states or “springing from within and below¹⁹. Regionalism also includes theories that place the blame for disintegration on the protectionism that can stem from regional dominance of a single trading block or group of cooperative parties. This would promote exclusion centered around, and based on the general strategy of the most powerful party in the cooperative landscape²⁰. This “does identify the contradictory nature of regionalism, which is both an integrative and disintegrative process, partly the result of the interplay among variants of this

¹⁷ Mittelman 2000a, pg 6

¹⁸ Mittelman 2000b, pg 112

¹⁹ Mittelman 2000b, pg 113

²⁰ Mittelman 2000b, pg 114

phenomenon in different zones of the global political economy²¹.” To identify a regionalism trend, one should look for this stabilizing and destabilizing nature of the theory along with some unifying set of values upon which to justify these activities²². Globalization increases under these situations, but only to a certain point.

POWER PROJECTION, HARD POWER VS. SOFT POWER

Both hard power and soft power have their place in the world of national strategy. Hard power, as Gilboa states, is the use of military and economic means to influence the national strategic goals of a nation²³. Clausewitz is famous for stating that war is “the continuation of policy by other means²⁴.” Military power includes the use of seapower, landpower, airpower, and nuclear power for both coercion and deterrence. Modern definitions also include “irregular war, insurgencies, counterinsurgencies, new war, and hybrid war²⁵.” Economic power is the use of a country’s economic means and influences to induce or coerce other forces to align with national strategy and policies. It includes both private, public, and government owned economic resources in concert with general national strategy. The use of hard power comes to the fore when a country must act outside of the ‘norms’ of diplomacy to forcefully influence other parties. As mentioned, military hard power includes behaviors like coercion and deterrence using the resources of a country via force and threats. The policies which implement this type of military hard power are coercive diplomacy, war, and alliances alike. Economic hard power

²¹ Mittelman 2000b, pg 114

²² Mittelman 2000b, pg 128

²³ Gilboa, Eytan. 2008. “Searching for a Theory of Public Diplomacy.” *The Annals of the American Academy*, 55–77. <https://journals.sagepub.com/doi/pdf/10.1177/0002716207312142>.

²⁴ Sloan, Elinor C. 2017. *Modern Military Strategy*. Second. New York, NY: Routledge.
, pg 1)

²⁵ Sloan 2017, pg 1

includes behaviors like inducement and coercion, but through sanctions and payments to, from, and between those economic entities that are willing to support the national strategy of a country. These policies include aid and bribes²⁶. Hard power can be measured in net trade calculations, sanctions, ships, soldiers, and/or the outcome of military activity. Most hard power is measured in tangible things like currency or an asset “you can drop it on a city or on your foot²⁷.” Joseph Nye Jr. claims that “one can affect others’ behavior in three main ways: threats of coercion (“sticks”), inducements and payments (“carrots”), and attraction that makes others want what you want²⁸.” Hard power covers the ‘sticks’ and the ‘carrots,’ and is generally seen as the opposite of soft power.

Soft power covers those activities that make others want what you want. It is most effectively used when others “want to follow [your country], admiring its values, emulating its example, and/or aspiring to its level of prosperity and openness²⁹.” Soft power requires an agenda or strategy that is attractive to others in diplomatic settings, and ranges from the smallest influences and interactions in society and the media to the broadest governmental policies. It is the mainstay of politics and diplomacy, covering interactions like persuasion and attraction³⁰. Soft power includes behaviors like agenda-setting and cooptation of ideas and ideologies using resources like values, culture, politics, and institutions. Government policies that implement soft power are public

²⁶ Gilboa 2008

²⁷ Nye Jr., Joseph S. 2008. “Public Diplomacy and Soft Power.” *The Annals of the American Academy*, 94–109. <https://journals.sagepub.com/doi/pdf/10.1177/0002716207311699>.

²⁸ Nye Jr. 2008

²⁹ Nye Jr. 2008

³⁰ Nye Jr. 2008

diplomacy, and in both bilateral and multilateral diplomacy³¹. While hard power is much easier to measure, soft power can also be measured via polls and focus groups. The judgement of whether or not is was, in fact, the soft power that produced such outcomes must be determined on a case-by-case basis, but can nonetheless be measured³². In either case, the measurement will not necessarily properly predict the outcomes, correlation does not always equate to causation, and predictions based on the past are not always a guarantee of the future. Soft power is intricate and covers a diverse set of timelines. A good framework for analysis comes from Eytan Gilboa who breaks the timeline up into immediate, intermediate, and long-range soft power. Immediate soft power is reactive and happens in a matter of days or hours. It's closely linked to governments and news management and includes advocacy, international broadcasting, and cyber public diplomacy. Intermediate soft power happens on the scale of weeks and months and is proactive in purpose. It usually is partially linked to government through general strategic communications like international public relations, corporate diplomacy, or diaspora public diplomacy. Long term soft power occurs on the scale of years. Its purpose is to build relationships and build favorable conditions through cultural diplomacy, exchanges, and branding. This long term soft power projection is mostly remotely linked to governments, although there are some examples of heavily intertwined long term soft power projection and government agenda setting³³.

³¹ Gilboa 2008

³² Nye Jr. 2008

³³ Gilboa 2008

GEOPOLITICS OF ENERGY

On the geopolitics of energy, Robert Kaplan of Stratfor Global Intelligence states, “Just as there are military geopolitics, diplomatic geopolitics and economic geopolitics, there is also energy geopolitics. For natural resources and the trade routes that bring those resources to consumers is central to the study of geography. Every international order in early modern and modern history is based on an energy resource³⁴.” Because of the increasing usage of energy resources by every nation on earth, the topic is now a security issue. Both importers and exporters seek to secure the affordability, supply, transportation, and extraction of these resources. Importers need to guarantee the affordability and supply, while exporters need to guarantee that they will be able to meet demand, deliver the product, and obtain a fair market value for those goods. All parties are concerned with the transportation vulnerabilities that exist and the vulnerabilities that exist with respect to the infrastructure necessary for exploration, extraction, and processing³⁵. As energy becomes more of a global security issue, strategists need to think more about the needs of the exporting countries along with the needs of the newly importing countries as well, not just the needs of those major powers who historically have been the main importers and supporters of the global energy market³⁶. With an ever increasing need for oil resources and a declining amount of space in the extraction geography, no longer can we focus our attention on the security of delivery to the importers of old, but need to shift our security focus to the production and export along

³⁴ Kaplan, Robert D. 2014. “The Geopolitics of Energy.” Stratfor Global Intelligence. 2014. <http://www.ctcitraining.org/topdocs/GeopoliticsEnergy.pdf>.

³⁵ Bradshaw, Michael J. 2009. “The Geopolitics of Global Energy Security.” *Geography Compass* 3 (5): 1920–37., pg 1926

³⁶ Bradshaw 2009, pg 1933

with those new players in the import market that may cause shifts in stability. Energy is the focus of every facet of grand strategy, it may be the ends but also the means³⁷. It can guide the “political, military, diplomatic, and economic strategies created by leaders who seek to provide secure energy resources at reasonable prices to their economies and constituents³⁸.” But it can also be the means by which countries can execute their grand strategy, helping them to achieve their goals that are non-energy focused. This can occur in two ways, through the energy production or energy demand that they provide to the world, using this as a tool to influence other parties, or as a sources of revenue which may allow them to pursue international strategies or domestic policies to implement their grand strategy³⁹. Although it is not the focus of this research, energy’s effect on the environment and a country’s development and research into alternative energies also drives grand strategy. These factors may increase in magnitude as the overall supply of traditional energy resources becomes less available, but this is outside the scope of this research⁴⁰.

With respect to the logic of war, energy plays a major role in two general ways. The first is the idea that energy is needed in order to execute war. This includes the ability to have energy resources in supply but also available to be useful for military use. The second thread of research is on the idea that energy is something to fight wars over.⁴¹ In addition to fighting wars specifically over energy resources, the secondary

³⁷ O’Sullivan, Mehan L. 2013. “The Handbook of Global Energy Policy.” In *The Handbook of Global Energy Policy*, edited by Andreas Goldthau, 30–47. West Sussex, UK: Wiley-Blackwell. pg 42

³⁸ O’Sullivan 2013, pg 42

³⁹ O’Sullivan 2013

⁴⁰ O’Sullivan 2013, pg 42

⁴¹ Ciuta, Felix. 2010. “Conceptual Notes on Energy Security: Total or Banal Security?” *Security Dialogue* 41 (2): 123–44. <https://journals.sagepub.com/doi/pdf/10.1177/0967010610361596>.

effects of energy starvation and scarcity can be a flashpoint for “socio-economic, political and environmental conditions such as population movements, internal strife, secessionism, and desertification, which cause or accelerate both interstate and intrastate conflict⁴².”

Alternatively to this logic of war, is Felix Ciuta’s Logic of Subsistence whereby everyone needs energy, and therefore energy security is not necessarily a means, tool, or end of warfare or grand strategy, but a final goal of public policy. In this logic, energy is not necessarily a tool that allows a state to better achieve their goals, but it is a commodity that must be guaranteed in order to stave off dysfunction within a state⁴³.

LITERATURE REVIEW SUMMARY

Countries can press for multiple general grand strategies while employing various types of power projection to gain ground towards those strategies. Here, the research has identified nationalism, globalization, and regionalism as three of the major types of grand strategies that countries can emphasize as their nation progresses forward. In the efforts to execute these strategies, the research points to hard and soft power as effectors. The geopolitics of energy play a major role in grand strategy development and execution. The goals of a country’s grand strategy can be guided and/or informed by their need for energy resources, as mentioned above. While these issues have not been found wanting for research specific to China’s strategy, what the author has not been able to find is what, if any, shift has occurred as a response to the oil situation in the South and East China Sea. Many scholars have identified general Chinese strategy and how that strategy has progressed over time, and many have identified that China has become ever

⁴² Ciuta 2010, pg 129

⁴³ Ciuta 2010 pg 132

aggressive in the area over energy security or for other reasons. What is missing, and what this research hopes to achieve, is a determination of the likelihood of the South and East China Sea conflict evolution being the main driver of China's strategy in the area.

METHODS

My hypothesis is that the drive for energy security informs China's strategy in the South and East China Seas and is a major reason for their aggression in the area. The null hypothesis can be proven true if my research shows that China's strategy has not generally changed in correlation with South and East China Seas' energy activities in the area, or if the scale of these energy activities is such that they wouldn't have much of a net effect on China's energy security. The null can be rejected if China's general strategy in the area has evolved in correlation with energy activities and those energy activities are of a scale that would secure significant energy security for China. My attempt to answer or inform this question will revolve around identifying the Chinese strategy, both specific to the region and in a grand scheme, and identify pertinent oil and natural gas data in correlation with any change in strategy. Identifying the scale of China's focus on energy resources, the resources used and/or available, and the timeline of events in the South and East China Seas should shed some light on the impact that the physical presence of energy resources has on their activities in the area.

To determine how possible energy reserves has affected the Chinese government's strategy vis-à-vis the South and East China Sea, I will first identify the frameworks within which I will complete my analysis. I discussed the notion of nationalism vs. globalization vs. regionalism. This will allow me to identify typical aspects of those theories that would help to identify the ideology behind the Chinese

strategy. Seeing as the South and East China Seas conflict typically discusses China's expansion pressure, generalizing their strategy into one of these three camps and then identifying which of the three strategies China is taking will help point to their intentions. I then discussed the role that energy plays in general strategy thinking. This portion reviewed some of the ideas around energy as the ends, tools, and/or means to general strategy but also looked at the competing theories of energy strategy focused on warfare, energy strategy as a logic of subsistence, and energy security as a necessary commodity that needs to be provided for stability. This will also help to identify China's intentions when it comes to their grand strategy and how they see energy security.

The data I will collect surrounds the hard and soft power projected by the Chinese government in an attempt to gain insight into the strategy that China has taken in the South and East China Seas and in general towards their national strategy. I will also look at oil and natural gas data related to China (including consumption, production, imports, exports, transportation, reserves) and related to the reserves in the East and South China Seas. After detailing the energy movement and access in the area, I will break down the pertinent activities within the South and East China Seas that relate to claimed Chinese aggression in the area in order to understand the evolution of the conflicts. Using this information, I will make educated claims about what influence those energy resources are likely to have had in the conflict.

DATA

CHINA'S HARD POWER

China has put developed a national strategy that attempts to project more soft and hard power, per their activities and their stated strategy. While they have grown notably

in their use of hard power, the resurgence of their attempts at soft power have become evident but has not necessarily matched the increases they have made in their economic and military growth⁴⁴. Specifically, China's increased naval strategy and force structure are key. The strategy is one that has shifted from a green water navy to that of an expanding blue water navy⁴⁵. During a 2013 interview from Lieutenant Commander Shi Lei after returning from an escort mission to the Gulf of Aden, he mentioned that when joining the People's Liberation Army Navy (PLAN) a decade earlier, he never thought he would sail far from land⁴⁶. United States Naval Captain James E Fanell summarizes their strategy by saying,

The PLAN is China's point of the spear in its quest for global hegemony... China's increasingly well-publicized naval presence and operations throughout Southeast Asia have contributed to a tectonic shift in this sensitive region, a shift towards Beijing and authoritarianism and away from the United States and its values of democracy and the rule of law⁴⁷.

The expansion and modernization has occurred through military and command reorganization and materiel expansion. In the year 2000, China had less than 50 advanced fighter/strike aircraft, 15 surface ships, four submarines, and only 300 ballistic missiles. By 2015, China had expanded its military to include more than 720 advanced fighter/strike aircraft, 65 surface ships, 60 submarines, and over 1000 ballistic missiles⁴⁸.

⁴⁴ Wang, Jian. 2011. *Soft Power in China: Public Diplomacy Through Communication*. New York, NY: Pulgrave Macmillan. <https://ebookcentral.proquest.com/lib/jhu/reader.action?docID=652664&ppg=18>, pg 5

⁴⁵ According to the US Naval Operations Concept of 2010, "blue water refers to open ocean; green water refers to coastal waters, ports and harbors; and brown water refers to navigable rivers and their estuaries ("Naval Operations Concept 2010: Implementing the Maritime Strategy" 2010, Washington, DC)"

⁴⁶ Fanell, James E. 2019. "China's Global Naval Strategy and Expanding Force Structure." *Naval War College Review* 72 (1): 10–55. https://www.jstor.org/stable/pdf/26607110.pdf?ab_segments=0%2Fbasic_SYC-4693%2Ftest, pg 14

⁴⁷ Fanell 2019, pg 14

⁴⁸ O'Rourke, Ronald. 2019. "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress." Washington, DC.

The general strategy has shifted from a coastal naval force that only operates within 50 miles of the Chinese coastline to a naval force that has expanded into the Pacific and further when needed. No longer is the PLAN made up of single mission platforms, but flexible, multi-mission platforms that are suited for new types of combat that include expanding missions outside the coastlines and the South and East China Seas⁴⁹. These platforms are suited to take islands and can provide more than adequate gunfire support for amphibious landing forces⁵⁰. Most notably, this force structure and expansion has allowed the Chinese to present significant roadblocks to those that wish to use hard power pressure against it. Specifically, the PLAN expansion has allowed China to execute an Anti-Access/Area Denial (A2AD) strategy that present off-limit areas and sanctuaries in the far western regions of the Pacific like the East and South China Seas⁵². Anti-access prevents any threat from setting up land bases in the area, while area denial prevents any freedom of navigation for civilians and maritime military forces, based on the decisions of the Chinese government and military⁵³. In addition to the increased size, ability, and revitalized organization, China possesses specific A2/AD capabilities based on their tactics and location. The Chinese government and military have positioned the preponderance of its military might in and/or near the East and South China Seas for quick deployment in the case of aggression or the necessity to execute operations. In addition, the military has claimed, built up, and fortified island chains within the Seas,

⁴⁹ Fanell 2019, pg 17

⁵⁰ Yoshihara, Toshi, and James R. Holmes. 2017. "Taking Stock of China's Growing Navy: The Death and Life of Surface Fleets." Philadelphia, PA)

⁵¹ Fanell 2019

⁵² Bitzinger, Richard A. 2016. "Third Offset Strategy and Chinese A2/AD Capabilities." *Center for a New American Security*. <https://www-jstor-org.proxy1.library.jhu.edu/stable/pdf/resrep06122.pdf?refreqid=excelsior%3Aadf307084579d641799cee361239c4d3>, pg 2

⁵³ Bitzinger 2016, pg 2

specifically Woody Island in the Parcel Island chain and former reefs in the Spratlys. Runways are being created on three other islands in addition to a 3000-meter airstrip on the aforementioned Spratly artificial island⁵⁴. In addition, the PLAN receive support from “the People’s Armed Forces Maritime Militia (PAFMM) ships and the largest civilian fishing fleets on the planet⁵⁵.” The Chinese government has increased their hard power projection by increasing the size of their forces and shifting the organization of the forces to expand their influence and reach.

CHINA’S SOFT POWER

Chinese leadership now pursues a soft power that is equal to its hard power, and has attempted to do this through the use of institutions and a rebranding of Chinese soft power. Official institutions like the Asia Pacific Economic Cooperation (APEC), Association of South East Asian Nations (ASEAN), the ASEAN Regional Forum (ARF), ASEAN’s upcoming Regional Comprehensive Economic Partnership (RCEP), and non-official or semi-official institutions like the Pacific Economic Cooperation Council and Pacific Trade and Development (PAFTAD) institution have all been key in the rise of China and the ability for China to distinguish itself as a Pacific leader and project soft power in the region⁵⁶. This has been especially key for the Chinese government, especially with the uncertainty brought about by the ‘America First’ ideology of the Trump Administration. In addition to the use of institutions to build soft power, China has attempted to rebrand their soft power and rely more heavily on their cultural soft power. This was officially named a key national initiative at the Seventeenth National

⁵⁴ Bitzinger 2016, pg 3 and 4

⁵⁵ Fanell 2019, pg 18

⁵⁶ Ponciano Intal Jr, Eria. 2017. “The Institutions behind East Asia’s Transformation.” East Asia Forum. 2017. <https://www.eastasiaforum.org/2017/03/05/the-institutions-behind-east-asias-transformation/>.

Congress of the Chinese Community Party in 2007 and has been a focus for Chinese soft power ever since. The usage of soft power is therefore applied to international relations and domestic policies alike in order to bring them into concert together⁵⁷. The collaboration between the two includes bringing Chinese arts, culture, media, entertainment, publishing, and language learning abroad. China is now pressing to, in the words of Fu Ying, the former Chinese ambassador to the United Kingdom, “take the initiative to conduct public diplomacy to help the outside world know about China⁵⁸.” This initiative includes shifting the communications strategy to be, “close to Chinese realities, close to the information needs of foreign audiences, and close to their information habits and minds⁵⁹.”

Chinese soft power increases have fallen prey to three distinct challenges. The first is the divergence from what China hopes to project upon the world against what the world actually sees of them. In a 2009 report from the BBC World Service, 92 percent of Chinese viewed their influence in the world in a positive light, whereas the number of other countries that viewed China in a negative light increased (although many developing Latin American and African countries did view China in a positive light)⁶⁰. In addition, in light of the Beijing Olympics, almost three quarters of Chinese viewed their country as one that was greatly liked abroad, while other countries has dissimilar ideas about China⁶¹. The second challenge that China has faced in their attempt to gain soft power is the split between the general image that the politicians present and the image

⁵⁷ Wang 2011

⁵⁸ Wang 2011, pg 9

⁵⁹ Wang 2011, pg 9

⁶⁰ Wang 2011, pg 5

⁶¹ Wang 2011, pg 6

that society projects. In research findings, the society of China, including traditions and culture, has been shown to have a positive reaction from outside countries while the government and its policies have a much lower standing in the world. Specifically, in a 2008 Chicago Council of Global Affairs survey, the overall soft power of China (including political, economic, diplomatic, cultural, and human capital) ranked below that of the United States, but the cultural soft power responses, especially in Southeast Asia were much higher⁶². The third challenge that the Chinese government has faced in projecting soft power is the pattern of perception between Americans and Chinese on the opposing government. The Chicago Council survey mentioned above showed that Chinese citizens mostly view the United States in a positive light (61 on a scale of 100) whereas American citizens mostly view China in a negative light (35 on a scale of 100). This pattern has continued for decades,

Among all the world's countries, China probably cares the most about its image in the United States. According to the favorability tracking polls by Gallup over the last two decades, except for a few isolated time periods, the proportion of Americans holding positive views of China hovers around 40 percent, whereas those with unfavorable perceptions is about 50 percent⁶³.

The general consensus around China's soft power and the opinion of many western researchers shows three general ideologies around China's attempt at projecting soft power, the first is a threat, the second is a collapse, and the third is neo-colonialism, with the idea of China as a threat being the most prevalent. All three perspectives show China's growth and projection of power in a negative light within research spheres⁶⁴. As Wang puts it, "According to these interpretations, the "rising" of China challenges and

⁶² Wang 2011, pg 6

⁶³ Wang 2011, pg 6

⁶⁴ Wang 2011, pg 7

destabilizes the existing international structure in the realms of security and economy as well as along the lines of soft power⁶⁵.”

OIL AND GAS IN CHINA

Energy Sector Summary

According to China’s 13th Five Year Plan, the government is pushing to increase domestic energy security in the hopes of building up infrastructure and becoming self-sufficient by exploring for oil and oil products domestically and decreasing imports⁶⁶. The market in China, specifically for oil and gas, is dominated by three national oil companies (NOC): Sinopec, China National Petroleum Corporation (CNPC), and China National Offshore Oil Corporation (CNOOC) which handle most upstream and downstream⁶⁷ elements⁶⁸. Woods McKenzie, an energy research and consultancy company, estimates that only 2-5% of China’s oil and gas production is done by international oil companies (IOCs), and mostly only through partnering with NOCs⁶⁹. In addition to this government led thrust for up and downstream oil production, the Chinese government has recently announced plans to take control of all pipelines owned or operated by these NOCs under a single national pipeline company⁷⁰. This in the hopes of increasing private investments and increasing a prioritized focus on infrastructure

⁶⁵ Wang 2011, pg 7

⁶⁶ Cao, Grace. 2019. “China - Oil and Gas.” <https://www.export.gov/article?id=China-Oil-and-Gas>.

⁶⁷ Upstream oil and gas activities include locating, developing, and extracting the raw materials, downstream oil and gas activities include all activities from refining and processing to point of sale (Kramer, Leslie. 2019. “Upstream vs. Downstream Oil & Gas Operations: What’s the Difference?” Investopedia. 2019. <https://www.investopedia.com/ask/answers/060215/what-difference-between-upstream-and-downstream-oil-and-gas-operations.asp>.)

⁶⁸ Cao 2019

⁶⁹ Cao 2019)

⁷⁰ Bloomberg News. 2019. “Why China’s Putting All Its Oil Pipes in One Company.” Bloomberg. 2019. <https://www.bloomberg.com/news/articles/2019-03-05/how-china-s-pipeline-spinoff-aims-at-cleaner-air-quicktake>.

development for oil transportation⁷¹. China's energy sector, at the guidance of the government, has been largely attempting to move towards self-sufficiency as the country increases its economy at such a high rate. Even with this increase in pressure to move toward self-sufficiency, the challenging geology of China is a hindrance⁷². In addition, the oil fields that have historically been the most prolific are mature and are already at peak production. Companies have focused on sustaining these oil flows with technological investments and have started to look towards developing reserves in the western provinces and offshore⁷³. While the Chinese government owned NOCs do handle almost all of the upstream and downstream sectors for oil and natural gas, the technological challenges to exploration of offshore deepwater fields and the extraction of those products has led to the Chinese government granting some international companies access in order to speed the technological advancement process⁷⁴. Even with this increase in oil exploration, technological advances, and a strategy to decrease imports, China has increased its reliance on imports, of which oil rose to almost 70% in 2018⁷⁵.

China's general political strategy has been threefold, first is importing oil from pariah states, second is focusing on a "no global" strategy for the NOC's, and third is using the financial resources of the Chinese government to support the NOCs. Now that the Chinese oil and natural gas sectors are more centralized than the late 1990's and early 2000's this strategy for energy security has been much more successful. In this time, China's consumption rose almost 20%, but the production of oil from OPEC

⁷¹ Cao 2019

⁷² Cao 2019

⁷³ U.S. Energy Information Agency. 2018. "International." 2018. <https://www.eia.gov/beta/international/>.

⁷⁴ U.S. Energy Information Agency 2018

⁷⁵ Cao 2019

countries barely rose because of this, showing China's diverse strategy⁷⁶ In addition, the central party has pressed the NOCs to operate as independently from other country's help, and focused on securing oil pipelines and shipping routes ⁷⁷

Consumption

Chinese oil usage has increased significantly over the past twenty years and correlates with their increased economy and increased GDP⁷⁸. As of 2016, China ranks first in both total primary energy production at 108.999 quadrillion Btu and total primary energy consumption at 141.079 quadrillion Btu⁷⁹. China ranks second in oil consumption with 12.792 million barrels of oil consumed daily, only behind the United States at 19.687 million barrels of oil per day, according to the U.S. Energy Information Agency⁸⁰. It has steadily increased its consumption every year since 1982 when the country consumed only 2 million barrels of oil per day⁸¹. Oil's share of total energy consumed has increased from around 8% in 1965 to close to 19% in 2015⁸².

China ranks third in natural gas consumption at 8.426 trillion cubic feet of natural gas consumed in 2017, behind the United States and Russia, respectively⁸³. In recent years, China has set its sights on natural gas as one of the major energy supplies for the future, so much so that the country's increasing use of natural gas in the 'Blue Skies'

⁷⁶ Taylor, Monique. 2014. *The Chinese State, Oil and Energy Security (International Political Economy Series)*. 978-1137350541.

⁷⁷ Taylor 2014

⁷⁸ Dong, Kang-Yin, and Ren-Jin Sun. 2017. "A Review of China's Energy Consumption Structure and Outlook Based on a Long-Range Energy Alternatives Modeling Tool." *Petroleum Science* 14 (1): 214–27. <https://link.springer.com/article/10.1007/s12182-016-0136-z>.

⁷⁹ U.S. Energy Information Agency 2018

⁸⁰ U.S. Energy Information Agency 2018

⁸¹ CEIC. 2018. "China | Economic Indicators, Historical Data & Forecasts." <https://www.ceicdata.com/en/country/china>.

⁸² Dong and Sun 2017

⁸³ U.S. Energy Information Agency 2018

policy that drives toward air quality is predicted to account for one third of the global demand increase by 2022. In addition, the 13th Five Year Plan projects that natural gas will rise from 3% to 10% of the country's energy mix by 2020^{84,85}.

Production

China is the fifth largest oil producer as of 2017⁸⁶. In 2018, China produced 4.81 million barrels of oil per day according to the U.S. Energy Information Agency, up from 4.16 in 2008, 3.30 in 1998, and 2.72 in 1988⁸⁷. China's energy production has generally increased since bottoming out around 2 million barrels of oil per day in 1982, but has slowed in the past three years⁸⁸.

China ranks sixth in natural gas production with 5.125 trillion cubic feet in 2017⁸⁹. China's natural gas production from 1980 through the mid to late 1990's stayed relatively stable, hovering around 10% of current production levels, increased steadily from the mid to late 1990's through mid-2000's, and then tripled from 2005 to 2018⁹⁰.

Imports

As of 2016 and based on their judgement of the necessary amount of data to rank countries, the U.S. Energy Information Agency tallied China's crude oil imports including lease condensate⁹¹ at 7.621 million barrels of oil per day, ranking second only

⁸⁴ Cao 2019

⁸⁵ U.S. Energy Information Agency. 2013. "South China Sea." Washington, DC

⁸⁶ Cao 2019

⁸⁷ U.S. Energy Information Agency 2018

⁸⁸ CEIC 2018

⁸⁹ U.S. Energy Information Agency 2018

⁹⁰ CEIC 2018

⁹¹ Lease condensate, or sometime condensate, is usually the liquid natural gas that separates from natural gas when it is dropped to atmospheric pressures, it is treated similarly to crude oil McKinsey&Company. 2019. "Condensate." McKinsey Energy Insights. 2019. <https://www.mckinseyenergyinsights.com/resources/refinery-reference-desk/condensate/>.

to the United States⁹². According to the International Energy Administration, China recently passed the United States in 2017 in total crude oil imports⁹³. The increased imports trend continued as China's Customs statistics stated that crude oil imports rose more than 10% in 2018, setting a record at 9.24 million barrels of oil imported per day⁹⁴. These numbers represent significant amounts of Chinese oil consumption, estimated in 2015 at 61% imported, and almost 70% in 2018⁹⁵. China became a crude oil importer in the early nineties, and has increased oil imports every year except for 1998 and 2001⁹⁶.

With respect to natural gas, China imported 3.448 trillion cubic feet of natural gas in 2017, leaving China ranked number three behind the Germany and Japan, respectively⁹⁷. The level of imports has increased dramatically since 2005 when China imported close to zero natural gas⁹⁸. From 2017 to 2018, China increased its natural gas imports by almost 32%, and indications show that this accounts for more than 45% of China's natural gas demand⁹⁹.

Exports

China exports 59 thousand barrels of oil per day, as of 2016, the most recent year for which the U.S. Energy Information Agency gives estimates. This ranks 40th overall in the world. China exported 119 billion cubic feet of natural gas in 2017, ranking it 35th

⁹² U.S. Energy Information Agency 2018

⁹³ Cao 2019

⁹⁴ Cao 2019

⁹⁵ Dong and Sun 2017

⁹⁶ CEIC 2018

⁹⁷ U.S. Energy Information Agency 2018

⁹⁸ CEIC 2018

⁹⁹ Cao 2019

overall¹⁰⁰. In general, China's exports of crude oil have decreased from a high in 1985 when they exported over 600 thousand barrels of oil¹⁰¹.

Reserves

The natural reserves of China currently are estimated at 26 billion barrels of oil as of 2018, and 208 trillion cubic feet of natural gas¹⁰². The CIA's estimates are slightly different but align, showing 25.63 billion barrels of oil in proven reserves as of 2018, and about 192 trillion cubic feet of natural gas in proven reserves¹⁰³. China has 400 to 500 million barrels of reserve oil held for strategic usage¹⁰⁴. According to the Chinese National Energy Administration (NEA)¹⁰⁵, the combination of strategic petroleum reserves, oil farm storage, and commercial stock can support the Chinese economy for an estimated 80 days, around 788 million barrels in total¹⁰⁶

Transportation

About 80% of Chinese oil flows through the South China Sea via the Straits of Malacca¹⁰⁷. In addition to this, China obtains oil through various pipelines from Russia and through pipelines in the western portion of the country¹⁰⁸. Russian imports to China

¹⁰⁰ U.S. Energy Information Agency 2018

¹⁰¹ CEIC 2018

¹⁰² U.S. Energy Information Agency 2018

¹⁰³ CIA. 2019. "China." The CIA's World Factbook. 2019.

<https://www.cia.gov/library/publications/resources/the-world-factbook/geos/ch.html>.

¹⁰⁴ "Oil Bulls Beware Because China's Almost Done Amassing Crude - Bloomberg." 2016. Bloomberg. 2016. <https://www.bloomberg.com/news/articles/2016-06-30/oil-bulls-beware-because-china-s-almost-done-amassing-crude>.

¹⁰⁵ The NEA falls under the National Development and Reform Commission which is a super ministry focused on macroeconomic planning (Daly, Tom. 2019. "China Has Enough Oil Inventories to Last about 80 Days: NEA." Reuters. 2019. <https://www.reuters.com/article/us-china-energy/china-has-enough-oil-inventories-to-last-about-80-days-nea-idUSKBN1W514V.ly> 2019)

¹⁰⁶ Daly 2019

¹⁰⁷ "How Much Trade Transits the South China Sea?" n.d. ChinaPower, CSIS. Accessed May 2, 2019. <https://chinapower.csis.org/much-trade-transits-south-china-sea/>.

¹⁰⁸ Bloomberg News 2019

account for around 13% of China's overall oil imports¹⁰⁹¹¹⁰. In addition to currently existing imports from Russia and via the South China Sea, the government of China is working to develop a pipeline that would run from the port of Gwadar, Pakistan to Kashgar, China, spanning more than 1300 miles over difficult terrain and contested borders in the Kashmir region¹¹¹¹¹², and began operating a pipeline through more than 700km of Myanmar in 2014¹¹³.

SOUTH AND EAST CHINA SEA OIL

The South and East China Seas contains both crude oil resources and natural gas resources, proven, probable, and unproven. The estimates for the amount of oil that is extractable varies drastically based on the estimation techniques and the assumptions placed by each estimator. The U.S. Energy Information Agency predicts 11 billion barrels of oil reserves and 190 trillion cubic feet of natural gas reserves. In contrast, Wood Mackenzie estimates 2.5 billion barrels of oil equivalent of combined resources under the sea¹¹⁴. Chinese government estimates claim 213 billion barrels, and the US Geological Survey estimates between five and 22 billion barrels of oil and between 70

¹⁰⁹ "Russia Holds Firm as Top Crude Oil Supplier to China - Reuters." 2018. Reuters. 2018. <https://www.reuters.com/article/us-china-economy-trade-oil/russia-holds-firm-as-top-crude-oil-supplier-to-china-idUSKBN1H20LO>.

¹¹⁰ Aizhu, Chen, and Meng Meng. 2019. "China's February Crude Imports Surge 22 Percent; Gas Imports Drop from January - Reuters." Reuters. 2019. <https://www.reuters.com/article/us-china-economy-trade-crude/chinas-february-crude-imports-surge-22-percent-gas-imports-drop-from-january-idUSKCN1QP0GJ>.

¹¹¹ Bhutta, Zafar. 2018. "From Gwadar-Kashgar: Crude Oil Pipeline Requires \$10 Billion Investment | The Express Tribune." Tribune. 2018. <https://tribune.com.pk/story/1712888/2-gwadar-kashgar-crude-oil-pipeline-requires-10-billion-investment/>.

¹¹² "CPEC to Connect Gwadar and Kashgar through an Oil Pipeline - CPEC Latest News." 2018. China-Pakistan Economic Corridor. 2018. <http://www.cpecinfo.com/news/cpec-to-connect-gwadar-and-kashgar-through-an-oil-pipeline/NTMyNA==>.

¹¹³ Bloomberg. 2017. "Myanmar Pipeline Gives China Faster Supply of Oil from Middle East." South China Morning Post. 2017. <https://www.scmp.com/news/china/economy/article/2086837/myanmar-pipeline-gives-china-faster-supply-oil-middle-east>.

¹¹⁴ U.S. Energy Information Agency 2013

and 290 trillion cubic feet of gas in undiscovered resources¹¹⁵¹¹⁶. These estimates are not on the scale needed for Chinese long term oil and natural gas independence, based on their imports and consumption, but it does represent a significant increase in the country's reserves.

Many of these reserves exist in contested waters along the eastern coast of Vietnam and the western coast of the Philippines, both areas that are contested by China's claim to the nine-dash line. About 80 parcels of possible undersea stores of oil exist in the area, around 30 of which are fully or partially claimed by China. About 28 of these are in waters claimed by both China and Vietnam, and while China has not officially claimed the parcels near the Philippines, they do lie within the nine-dash line and are in the vicinity of the Chinese claimed Spratly Islands (see Appendix 3) ¹¹⁷. The areas around the Spratly Islands is estimated, by the USGS, to contain 2.5 billion barrels of oil and 25.5 trillion cubic feet of undiscovered resources. These areas on the northeast end of the Spratlys, called the Reed Bank, is claimed by China Taiwan, and Vietnam. In addition to the contested claims to the area, the Philippines discovered natural gas in 1976 in the area, but Chinese objections have halted any further development of the area since 2005¹¹⁸.

¹¹⁵ Daiss, Tim. 2018. "How Oil Drives The South China Sea Conflict." Oilprice.Com. 2018. <https://oilprice.com/Energy/Energy-General/How-Oil-Drives-The-South-China-Sea-Conflict.html>.

¹¹⁶ U.S. Energy Information Agency 2013

¹¹⁷ Asia Maritime Transparency Initiative. n.d. "South China Sea Energy Exploration and Development." CSIS.Org. Accessed September 16, 2019. <https://amti.csis.org/south-china-sea-energy-exploration-and-development/>.

¹¹⁸ U.S. Energy Information Agency 2013

SOUTH AND EAST CHINA SEA DISPUTE EVOLUTION

Below is a brief timeline of significant events that have occurred in the South China Seas for contextualizing the South and East China Sea conflict and interest in oil in the region¹¹⁹. Towards the end of World War II (WWII), China made their first claim to the area then known as the eleven-dash line. This area covered the Pratas Islands, the Macclesfield Bank, and the Paracel and Spratly Islands and included the Gulf of Tonkin¹²⁰. Soon after the Treaty of Peace was signed between Japan and forty-eight countries, ending WWII, Japan conceded its claims to the South China Sea, to which they were granted residual sovereignty over. In 1960, Japan's sovereignty claims begin to come into effect, and the US and Japan signed the Treaty of Mutual Cooperation and Security, covering the South China Sea Islands and Diaoyu/Senkaku Islands in the East China Sea. Nine years later, in 1969, the UN Economic Commission for Asia and the Far East publishes a report identifying credible findings of hydrocarbon resources between Taiwan and Japan, the first of its kind in the area. In response to this, Japan, South Korea, and Taiwan hold East China Sea energy exploration talks, while China reiterates claims sovereignty over nine-dash line, specifically the Diaoyu/Senkaku Islands. This situation begins a long history of aggression by China in the area that is matched, somewhat, by neighbors to the Seas who claim the very same islands and includes hostile takeovers, crashes (naval vessels and aircraft and civilian vessels), island building, the taking of captives, purchasing of privately owned islands in the area, and unilateral signing of laws laying claim to the area (See Appendix 4 for more details). During these competing claim

¹¹⁹ Dingli et al. 2019

¹²⁰ The Chinese Communist Party would remove the Gulf of Tonkin in 1953, simplifying their claims and creating the present day claim to the nine-dash line (Dingli et al. 2019)

battles, the 1982 United Nations Conference on the Law of the Sea (UNCLOS) defines the usage of a nation's surrounding waters based on exclusive economic zones and continental shelves, but it is vague with respect to the South and East China Seas and has still not been ratified. To complicate matters, China passed the Law on the Territorial Sea and the Contiguous Zone in 1992, laying claim to all of the South China Sea based on claims dating back to the Xia dynasty (21st through 16th centuries BCE). In 2002 the Declaration on the Conduct of Parties in the South China Sea was signed between the Association of Southeast Asian Nations (ASEAN) and China creating guidelines for conflict resolution in the area. Although both UNCLOS and the Declaration of the Conduct of Parties in the South China Sea existed, China, in 2009, began to develop the Tianwaitian/Kashi oil field, and area that was set aside for joint development between China and Japan. As time progressed, China slowly began militarizing the area, to the point that, in 2013, the Philippines finally initiated an international arbitration case under UNCLOS regarding the Chinese claims over the Spratlys and Scarborough Shoal. Because China rejected the process, UNCLOS arbitrated without Chinese participation and, in 2016, the Hague ruled against China and stated that they have no legal basis for the South China Sea historical claims, a ruling that China neither accepts nor recognizes. Competition continues to this day in various forms mostly upholding UNCLOS rulings but leaning towards Chinese dominance because of their military might. Appendix 4 identifies a more thorough timeline of the conflict.¹²¹

¹²¹ Dingli et al. 2019

DISCUSSION AND CONCLUSION

The data provided here show a transformation of Chinese power that includes developments in both the military/defense and oil industries, along with a general push towards more power projection and aggression in the East and South China Sea. The significant increase in economic might has driven an increase in oil consumption beyond what China can provide for the economy. Since the early 1990's, China has imported oil to meet their energy demands, growing to become the top oil importer in the world¹²². In addition, China became a natural gas importer around 2005, and has significantly increased their usage of natural gas, leading to a year to year increase of over 30% between 2017 and 2018¹²³¹²⁴. During the time between 1990 and 2018, China's economy grew at an average rate above 9%, bringing it from \$360 billion to \$13,608 billion¹²⁵¹²⁶. Continual increases in economic metrics like this rely heavily on the ability for China to obtain energy resources. In addition to economic development and increases in soft and hard power, the Chinese government has also started to develop economic infrastructure to support their growing trade. This includes long-term port deals in "Australia, Cambodia, Indonesia, Malaysia, Brunei, Myanmar, the Strait of Malacca, Bangladesh, Sri Lanka, Pakistan, Djibouti, Tanzania, Mauritius, Namibia, and Greece¹²⁷" and negotiations

¹²² CEIC 2018

¹²³ Cao 2019

¹²⁴ CEIC 2018

¹²⁵ The World Bank. 2019a. "GDP (Current US\$) - China." The World Bank National Accounts Data. 2019.

<https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2018&locations=CN&start=1990&view=chart>.

¹²⁶ The World Bank. 2019b. "GDP Growth (Annual %) - China." The World Bank National Accounts Data. 2019.

<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2018&locations=CN&start=1990&view=chart>.

¹²⁷ Fanell 2019, pg 27

with Maldives, Scandinavia, and Greenland for additional ports¹²⁸. These ports support the commercial side of Chinese trade, but also PLAN vessels and Chinese merchant marine vessels (which are required to now be built to military specifications as of 2015)¹²⁹. The Chinese government has self-proclaimed that they are pushing for increased soft power, but have made more strides towards hard power projection. This is most evident by the Chinese activities in the South and East China Sea and because of the timeline for oil discovery and exploration in the area, could cause observers to believe that the projection in the area is based on claims for these resources. When identifying the significant activities in the area, very little extraction has happened in contested waters¹³⁰. While China has an ever-growing need for oil and natural gas resources to support their economy and increasing military, the sheer size of the possible oil resources under the East and South China seas are not a viable option to give China oil independence. While the resources under the sea are not significant enough to give China oil and natural gas independence, it would account for a significant increase in overall reserves for the country. The BRI focuses on the continued interconnectedness of the energy resources flowing through and into Asia, but is oddly quiet about the specific resources under the East and South China Sea¹³¹. The aggressive Chinese activities in the area did spark after the UN determined there were resources under the sea, but China has not changed its overarching national strategy to claim that area specifically for solely the oil and natural gas resources. Hypothetically, if securing the energy reserves under the East and South

¹²⁸ Fanell 2019, pg 27

¹²⁹ Fanell 2019, pg 28

¹³⁰ Dingli et al. 2019

¹³¹ Qiang, Liu. 2015. "China's 'One Belt, One Road' Offers Energy Security for Asia and Beyond." South China Morning Post. 2015. <https://www.scmp.com/comment/insight-opinion/article/1820505/chinas-one-belt-one-road-offers-energy-security-asia-and>

China Sea was a significant pillar of the Chinese strategy in the area, then energy concerns would predate their claim to the nine dash line. In this case, while their activity did increase after the UN determination, their activity in the area was initially based on historical claims in a time when they were not significantly concerned with securing future energy resources.

The activity of the Chinese government in the area is more akin to a regionalism approach, based on the economic growth and general disregard for neighboring country's claims to areas that are in contestation but not necessarily succeeding at pressing their military claims much outside of the South and East China Seas. While securing energy resources are necessary for this strategy, Chinese consumption, at 12.792 billion barrels per day in 2017, would use up the entirety of the oil resources in in the area less than two and a half years, and would consume the natural gas resources even faster¹³²¹³³. Therefore it is unlikely that their activity in the area is focused on extracting these resources. It seems that China's ideals lead them towards a national strategy focused on the developed use of soft power, but as the research shows, this strategy has only worked in neighboring regions, therefore showing a regionalism strategy. This soft power approach has lagged behind their ability to project hard power, and their aggression and activities in the South and East China Seas are a testament to that, and a testament to their growing regionalism approach. Specifically in the South and East China Sea, this hard power is used to secure the energy resources there, but because of the scale of consumption, need for imports, and scale of resources under the South and East China Seas, using energy security as a rationale to fight for the area is most likely only a guise.

¹³² U.S. Energy Information Agency 2018

¹³³ Dingli et al. 2019

ALTERNATIVE EXPLANATIONS AND FURTHER RESEARCH

One explanation for the Chinese strategy in the area is the idea that the expansion into the South and East China Seas is a strategy that will allow China to affect the trade routes and economics of many world powers across the globe. According to CSIS, \$3.37 trillion of trade transited the area in 2016. This, compared to overall world trade in 2016 at \$15.9 trillion, accounts for a full 21% of all world trade. Some estimates even predict the amount of trade at \$5.3 trillion that transits the area annually, increasing the percentage to a full third of all global trade¹³⁴. If China were to have pure hegemony aspirations, using the energy resources under the East and South China Seas as a guise for control of the region would predictably be a strategy that would help.

Another explanation for China's aggression in the area is not that they need to obtain more access to energy resources, but that they need to protect the energy resources that transit the area. By 2030, it is predicted that 80% of crude oil used by China will be imported¹³⁵, and seeing as much of that is shipped through the South China Sea, it is more likely that the hard power projection is to secure those shipping lanes rather than extract the natural resources from the ocean floor. The predicted A2AD strategy allows China to create a standoff area between these shipping lanes (and their homeland) and those that wish to oppose them, most notably the United States.

As this research only covered oil and natural gas, a full identification of all energy resources is necessary to truly understand energy's role in China's South and East China Seas strategy. The country has been pushing towards ever more sustainable energy

¹³⁴ "How Much Trade Transits the South China Sea?" n.d.

¹³⁵ Cao 2019

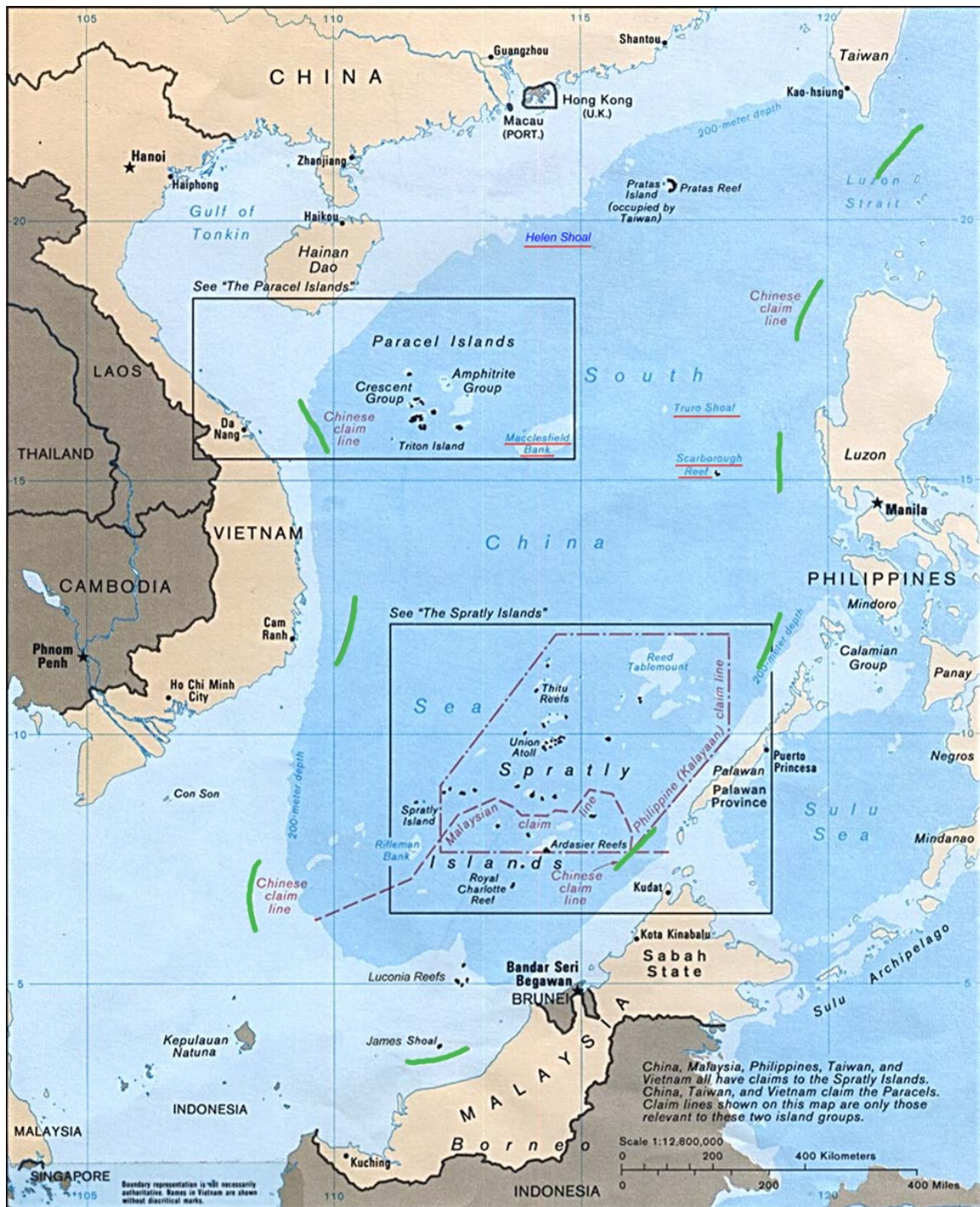
resources, as is apparent in their national strategy and their development projects¹³⁶.

Instead of relying on the reserves in the South and East China Seas, China may be heading towards energy sustainability and security via the renewables route in order to offset their need to secure traditional oil and natural gas imports.

¹³⁶ Dudley, Dominic. 2019. "China Is Set To Become The World's Renewable Energy Superpower, According To New Report." *Forbes*. 2019. <https://www.forbes.com/sites/dominicdudley/2019/01/11/china-renewable-energy-superpower/#31a4e8b1745a>.

APPENDIX

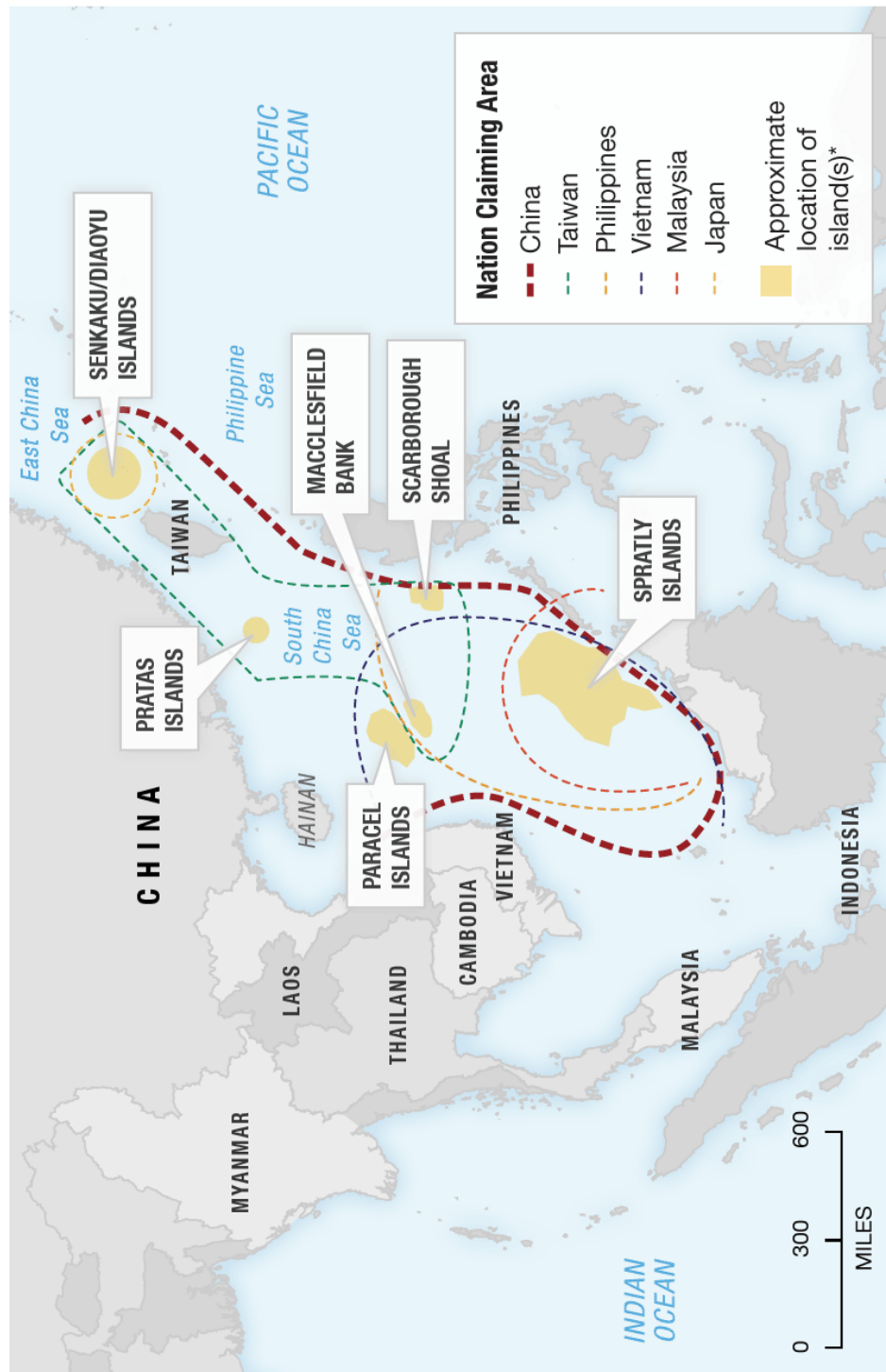
APPENDIX 1: Map of South China Sea with 9 Dash Line



A map of the South China Sea with the 9 dotted (or 9 dash) line highlighted in green¹³⁷

¹³⁷ CIA 1988

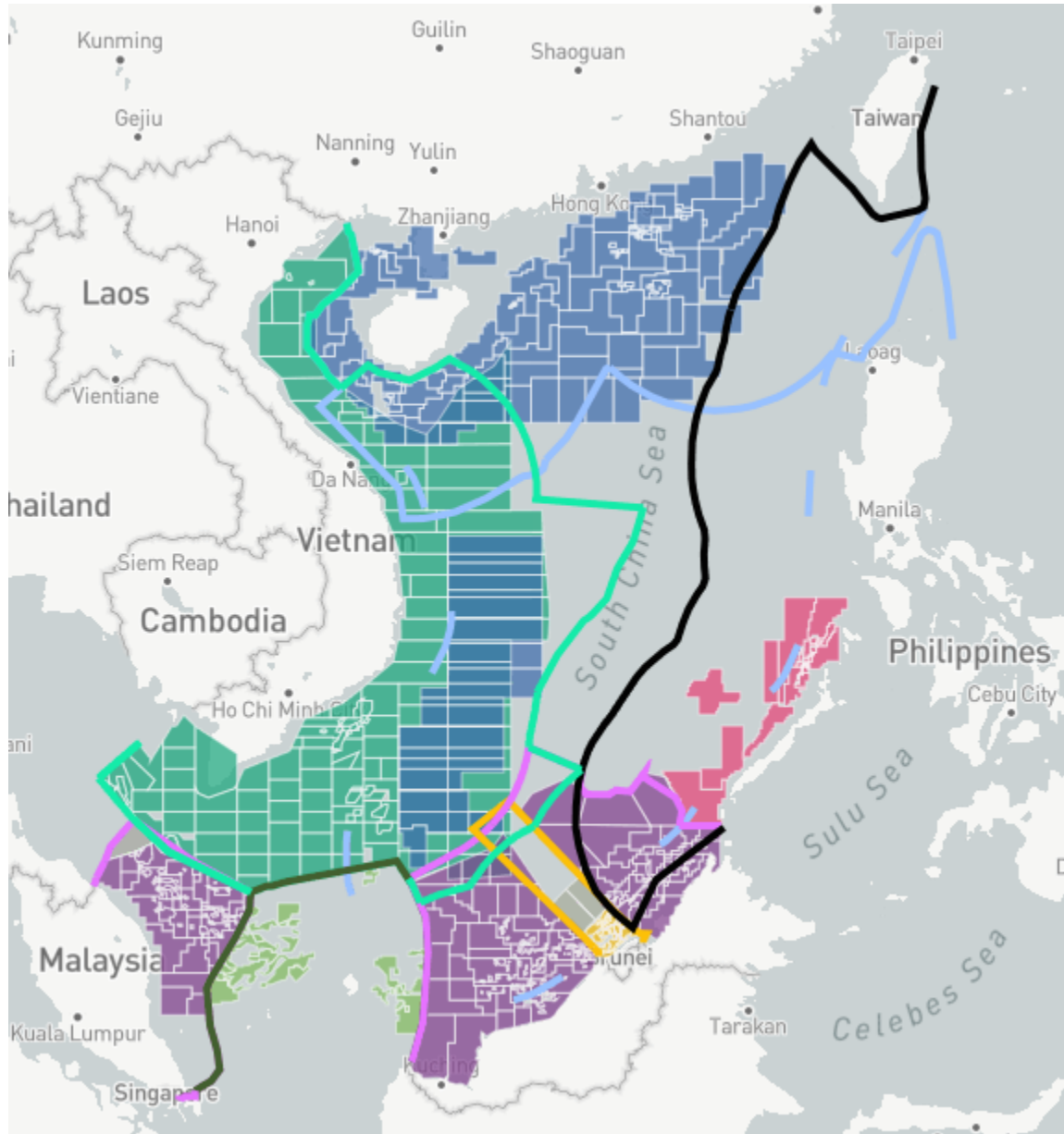
APPENDIX 2: Map of South China Sea and southern East China Sea



A map of the South China and southern East China Sea with identified conflict areas and location of national claims¹³⁸

¹³⁸ Park 2016

APPENDIX 3: Map of oil licensing blocks in the South China Sea



The South China Sea with licensing blocks and claim lines identified by color, the black line identifies the Philippine continental shelf:

China's blocks and claim lines are identified in blue

Vietnam's blocks and claim lines are identified in turquoise

The Philippines' blocks and claim lines are identified in pink

Malaysia's blocks and claim lines are identified in purple

Brunei's block and claim lines are identified in orange

Indonesia's blocks and claim lines are identified in dark green¹³⁹

¹³⁹ Asia Maritime Transparency Initiative n.d.

APPENDIX 4: A list of historically relevant activity in the South and East China

Seas from 1974 through 2019

- 1947: China's first official claim to the South and East China Sea via an eleven-dash line that encompasses the Pratas Islands, the Macclesfield Bank, and the Paracel and Spratly Islands
- 1951: Treaty of Peace is signed in San Francisco between Japan and forty eight countries, ending World War II, Japan concedes its claims to islands in the South China Sea and is granted residual sovereignty of them
- 1953: The Chinese Communist Party removes the Gulf of Tonkin from the claims to simplify them, creating the nine-dash line which China currently claims
- 1960: US and Japan sign the Treaty of Mutual Cooperation and Security which the US asserts covers South China Sea islands, specifically the Diaoyu/Senkaku Islands
- 1969: The UN Economic Commission for Asia and the Far East publishes a report identifying credible findings of hydrocarbon resources between Taiwan and Japan
- 1970: Japan, South Korea, and Taiwan hold East China Sea energy exploration talks, China claims sovereignty over nine-dash line, specifically the Diaoyu/Senkaku Islands
- 1973: Paris Peace Accords, ends US involvement in the Vietnam War
- 1974: Chinese forces occupy and plant flags on several western Paracel Islands, evicting South Vietnamese Troops and building an airfield and harbor on Woody Island
- 1976: The Philippines discovers oil in the Northwest Palawan Basin
- 1982: The United Nations Conference on the Law of the Sea (UNCLOS) defines the usage of a nation's surrounding waters based on exclusive economic zones and continental shelves, it is vague with respect to the South and East China Seas and has not been ratified
- 1987: China establishes a physical presence on Fiery Cross Reef in the Spratlys, Vietnam establishes monitoring stations on several nearby reefs
- 1988: Seventy-four Vietnamese sailors die when China sinks three Vietnamese vessels
- 1992: China passes the Law on the Territorial Sea and the Contiguous Zone, lays claim to all of the South China Sea based on claims dating back to the Xia dynasty (21st through 16th centuries BCE)
- 1996: Chinese vessels engage with a Philippine navy gunboat in the Mischief Reef, a portion of the Spratlys claimed by the Philippines
- 1998: China and the United States sign the Military Maritime Consultative Agreement to promote a defense dialogue as the PLAN attempts to become a blue water navy
- 2001: Chinese F-8 interceptor pilot dies in crash with U.S. Navy surveillance aircraft over the South China Sea
- 2002: Declaration on the Conduct of Parties in the South China Sea is signed between ASEAN and China, creates guidelines for conflict resolution

2008: Japan and China sign a Joint Energy Development Agreement that covers an agreement to explore four oil fields together and includes halting development in contested waters

2009: China begins unilaterally developing the Tianwaitian/Kashi oil field, one of the four mentioned in the Joint Energy Development Agreement

2009: Malaysia and Vietnam request that the UN extend their continental shelves beyond 200 miles, China sees this as an infringement on their claims

2010: Chinese fishing boat collides with a Japanese Coast Guard ship near the Diaoyu/Senkaku Islands, Japan arrests the crew

2011: The Philippines expresses concern over at least five incursions by Chinese ships near the Spratly Islands and the Palawan Islands. These include: Chinese surveillance ships forcing Philippine survey vessel to leave the Reed Bank area and harassment of Vietnamese oil exploration ships by China

April 2012: Chinese fishing boats are confronted by warships from the Philippines near the Scarborough Shoal, China responds by dispatching vessels to protect the fishermen

June 2012: Vietnam passes a law claiming jurisdiction over the Spratly and Paracel Islands, China responds by establishing a city on the Paracels to administer the Paracels, Macclesfield Bank, and Spratlys

September 10, 2012: Japan buys a portion of the Diaoyu/Senkaku Islands from private owner causing significant protests in China

September 12, 2012: China claims the territorial sea baselines around the recently purchased Diaoyu/Senkaku islands

January 2013: Under UNCLOS, the Philippines initiates an international arbitration case regarding the Chinese claims over the Spratlys and Scarborough Shoal, China rejects the process and UNCLOS arbitrates without their participation, first claim under UNCLOS against China

May 2013: Japan offers military aid for the Philippine Coast Guard to counter China's presence, this includes patrol boats

November 2013: Chinese Ministry of Defense creates the East China Sea Air Defense Identification Zone covering most of the East China Sea, requires non-commercial aircraft to submit flight plans before crossing through, South Korea, the United States, and Japan all send military aircraft on patrols in the area

April 2014: US signs a military pact with the Philippines, US expresses support for international arbitration of disputed South China Sea Islands

May 2014: China attempts to establish an oil rig near the Paracel Islands, Vietnam send ships to stop the activity, China responds with forty ships for protection, several vessels collide

October: US warships patrol the waters within 12 nautical miles of Chinese built Islands in the Spratlys

February 2016: China deploys missiles on the Woody Islands in the Paracel Islands in the South China Sea, claims rights to defend its sovereign territory

July 2016: The Hague rules against China in the arbitration case under UNCLOS and in favor of the Philippines, stating China has no legal basis for the South China Sea historical claims, China declares that it "neither accepts nor recognizes" the court's award

October 2016: China stations J-11 fighter aircraft on the Woody Islands
December 2016: China seizes a US scientific underwater drone
May 2018: Chinese H-6 bombers land on Woody Island
September 2018: US Destroyer, USS Decatur, narrowly avoids a collision with the
Chinese Destroyer Lanzhou near the Spratly Islands
January-March 2019: More than 200 Chinese vessels identified near the Thitu Island in
the Spratly island chain¹⁴⁰

¹⁴⁰ Dingli et al. 2019

BIBLIOGRAPHY

- Aizhu, Chen, and Meng Meng. 2019. "China's February Crude Imports Surge 22 Percent; Gas Imports Drop from January - Reuters." Reuters. 2019.
<https://www.reuters.com/article/us-china-economy-trade-crude/chinas-february-crude-imports-surge-22-percent-gas-imports-drop-from-january-idUSKCN1QP0GJ>.
- Asia Maritime Transparency Initiative. n.d. "South China Sea Energy Exploration and Development." CSIS.Org. Accessed September 16, 2019. <https://amti.csis.org/south-china-sea-energy-exploration-and-development/>.
- Bhutta, Zafar. 2018. "From Gwadar-Kashgar: Crude Oil Pipeline Requires \$10 Billion Investment | The Express Tribune." Tribune. 2018.
<https://tribune.com.pk/story/1712888/2-gwadar-kashgar-crude-oil-pipeline-requires-10-billion-investment/>.
- Bitzinger, Richard A. 2016. "Third Offset Strategy and Chinese A2/AD Capabilities." *Center for a New American Security*. <https://www-jstor-org.proxy1.library.jhu.edu/stable/pdf/resrep06122.pdf?refreqid=excelsior%3Aadf307084579d641799cee361239c4d3>.
- Bloomberg. 2017. "Myanmar Pipeline Gives China Faster Supply of Oil from Middle East." South China Morning Post. 2017.
<https://www.scmp.com/news/china/economy/article/2086837/myanmar-pipeline-gives-china-faster-supply-oil-middle-east>.
- Bloomberg News. 2019. "Why China's Putting All Its Oil Pipes in One Company." Bloomberg. 2019. <https://www.bloomberg.com/news/articles/2019-03-05/how-china-s-pipeline-spinoff-aims-at-cleaner-air-quicktake>.
- Bradshaw, Michael J. 2009. "The Geopolitics of Global Energy Security." *Geography Compass* 3 (5): 1920–37.
- Cao, Grace. 2019. "China - Oil and Gas." <https://www.export.gov/article?id=China-Oil-and-Gas>.
- CEIC. 2018. "China | Economic Indicators, Historical Data & Forecasts." <https://www.ceicdata.com/en/country/china>.
- CIA. 1988. "9 Dotted Line." https://upload.wikimedia.org/wikipedia/commons/c/ce/9_dotted_line.png.
- . 2019. "China." The CIA's World Factbook. 2019.
<https://www.cia.gov/library/publications/resources/the-world-factbook/geos/ch.html>.
- Ciuta, Felix. 2010. "Conceptual Notes on Energy Security: Total or Banal Security?" *Security Dialogue* 41 (2): 123–44.
<https://journals.sagepub.com/doi/pdf/10.1177/0967010610361596>.
- "CPEC to Connect Gwadar and Kashgar through an Oil Pipeline - CPEC Latest News." 2018. China-Pakistan Economic Corridor. 2018.
<http://www.cpecinfo.com/news/cpec-to-connect-gwadar-and-kashgar-through-an-oil-pipeline/NTMyNA==>.
- Daiss, Tim. 2018. "How Oil Drives The South China Sea Conflict." Oilprice.Com. 2018.
<https://oilprice.com/Energy/Energy-General/How-Oil-Drives-The-South-China-Sea-Conflict.html>.
- Daly, Tom. 2019. "China Has Enough Oil Inventories to Last about 80 Days: NEA." Reuters. 2019. <https://www.reuters.com/article/us-china-energy/china-has-enough->

- oil-inventories-to-last-about-80-days-nea-idUSKBN1W514V.
- Dingli, Shen, Elizabeth Economy, Richard Haass, Joshua Kurlantzick, Sheila A. Smith, and Simon Tay. 2019. "China's Maritime Disputes." Council on Foreign Relations. 2019. https://www.cfr.org/interactives/chinas-maritime-disputes?cid=otr-marketing_use-china_sea_InfoGuide#!/chinas-maritime-disputes?cid=otr-marketing_use-china_sea_InfoGuide.
- Dong, Kang-Yin, and Ren-Jin Sun. 2017. "A Review of China's Energy Consumption Structure and Outlook Based on a Long-Range Energy Alternatives Modeling Tool." *Petroleum Science* 14 (1): 214–27. <https://link.springer.com/article/10.1007/s12182-016-0136-z>.
- Dudley, Dominic. 2019. "China Is Set To Become The World's Renewable Energy Superpower, According To New Report." *Forbes*. 2019. <https://www.forbes.com/sites/dominicdudley/2019/01/11/china-renewable-energy-superpower/#31a4e8b1745a>.
- Fanell, James E. 2019. "China's Global Naval Strategy and Expanding Force Structure." *Naval War College Review* 72 (1): 10–55. https://www.jstor.org/stable/pdf/26607110.pdf?ab_segments=0%2Fbasic_SYC-4693%2Ftest.
- Gilboa, Eytan. 2008. "Searching for a Theory of Public Diplomacy." *The Annals of the American Academy*, 55–77. <https://journals.sagepub.com/doi/pdf/10.1177/0002716207312142>.
- "How Much Trade Transits the South China Sea?" n.d. ChinaPower, CSIS. Accessed May 2, 2019. <https://chinapower.csis.org/much-trade-transits-south-china-sea/>.
- Kaplan, Robert D. 2014. "The Geopolitics of Energy." Stratfor Global Intelligence. 2014. <http://www.ctcitraining.org/topdocs/GeopoliticsEnergy.pdf>.
- Keohane, Robert O., and Joseph S. Nye. 1989. *Interdependence in World Politics. Power and Interdependence*. Second. Boston, MA: HarperCollins.
- Kramer, Leslie. 2019. "Upstream vs. Downstream Oil & Gas Operations: What's the Difference?" Investopedia. 2019. <https://www.investopedia.com/ask/answers/060215/what-difference-between-upstream-and-downstream-oil-and-gas-operations.asp>.
- McKinsey&Company. 2019. "Condensate." McKinsey Energy Insights. 2019. <https://www.mckinseyenergyinsights.com/resources/refinery-reference-desk/condensate/>.
- Mittelman, James H. 2000a. "Introduction." In *The Globalization Syndrome: Transformation and Resistance*, 2–14. Princeton, NJ: Princeton University Press. <https://muse.jhu.edu/book/33170>.
- . 2000b. "The 'New Regionalism.'" In *The Globalization Syndrome: Transformation and Resistance*, 112–30. Princeton, NJ: Princeton University Press.
- "Naval Operations Concept 2010: Implementing the Maritime Strategy." 2010. Washington, DC.
- Nye Jr., Joseph S. 2008. "Public Diplomacy and Soft Power." *The Annals of the American Academy*, 94–109. <https://journals.sagepub.com/doi/pdf/10.1177/0002716207311699>.
- O'Rourke, Ronald. 2019. "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress." Washington, DC.

- O'Sullivan, Mehan L. 2013. "The Handbook of Global Energy Policy." In *The Handbook of Global Energy Policy*, edited by Andreas Goldthau, 30–47. West Sussex, UK: Wiley-Blackwell.
- "Oil Bulls Beware Because China's Almost Done Amassing Crude - Bloomberg." 2016. Bloomberg. 2016. <https://www.bloomberg.com/news/articles/2016-06-30/oil-bulls-beware-because-china-s-almost-done-amassing-crude>.
- Park, Katie. 2016. "Map of South China Sea Line." NPR. <https://www.npr.org/sections/thetwo-way/2016/07/13/485814417/chinese-official-on-tribunal-ruling-its-nothing-but-a-scrap-of-paper>.
- Ponciano Intal Jr, Eria. 2017. "The Institutions behind East Asia's Transformation." East Asia Forum. 2017. <https://www.eastasiaforum.org/2017/03/05/the-institutions-behind-east-asias-transformation/>.
- Qiang, Liu. 2015. "China's 'One Belt, One Road' Offers Energy Security for Asia and Beyond." South China Morning Post. 2015. <https://www.scmp.com/comment/insight-opinion/article/1820505/chinas-one-belt-one-road-offers-energy-security-asia-and>.
- "Russia Holds Firm as Top Crude Oil Supplier to China - Reuters." 2018. Reuters. 2018. <https://www.reuters.com/article/us-china-economy-trade-oil/russia-holds-firm-as-top-crude-oil-supplier-to-china-idUSKBN1H20LO>.
- Sloan, Elinor C. 2017. *Modern Military Strategy*. Second. New York, NY: Routledge.
- Smith, Anthony D. 2010. *Nationalism: Theory, Ideology, History*. Polity.
- Tabb, William K. 1994. *The Postwar Japanese System: Cultural Economy and Economic Transformation*. New York: Oxford University Press.
- Taylor, Monique. 2014. *The Chinese State, Oil and Energy Security (International Political Economy Series)*. 978-1137350541.
- The World Bank. 2019a. "GDP (Current US\$) - China." The World Bank National Accounts Data. 2019. <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2018&locations=CN&start=1990&view=chart>.
- . 2019b. "GDP Growth (Annual %) - China." The World Bank National Accounts Data. 2019. <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2018&locations=CN&start=1990&view=chart>.
- U.S. Energy Information Agency. 2013. "South China Sea." Washington, DC.
- . 2018. "International." 2018. <https://www.eia.gov/beta/international/>.
- Wang, Jian. 2011. *Soft Power in China: Public Diplomacy Through Communication*. New York, NY: Pulgrave Macmillan. <https://ebookcentral.proquest.com/lib/jhu/reader.action?docID=652664&ppg=18>.
- Yoshihara, Toshi, and James R. Holmes. 2017. "Taking Stock of China's Growing Navy: The Death and Life of Surface Fleets." Philadelphia, PA.

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